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## A New Species of *Aphodius* with Notes on Others (Coleoptera: Scarabaeidae)

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Unless otherwise noted, the specimens used as the basis of this paper are in the collection of the author.

### *Aphodius* (*Platyderides*) *yukonensis* new species

This species is allied to *phacopterus* Leconte but is larger in size. Also in the older species the middle and posterior femora have many hairs on the posterior side. The greatest difference between the two species is in the secondary sexual characters of the anterior and middle tibial spurs. The spur on the anterior tibia of *phacopterus* is not as long nor as stout and is less strongly curved than the corresponding spur on *yukonensis*. In male specimens of the older species, the short spur of the middle tibia is one-third the length of the long spur and is abruptly turned inwards at the apex.

Elongate, parallel, moderately convex; disk of the head and thorax blackish, the rest of the body is dark reddish, setae yellowish; shining.

Clypeus shallowly emarginate, the angles on each side subacute. Genae moderately prominent, well rounded, fimbriate. The surface of the head is moderately coarsely and rather evenly punctured. The punctures are separated from one to three times their diameter. Frons with three ill-defined tubercles placed transversely.

Thoracic side margins slightly explanate, fimbriate. The anterior angles are well rounded while the posterior ones are very broadly rounded. The side margins are parallel and the posterior margin has the marginal line entire. The disk is mod-

erately convex. The punctures are of two sizes, the finer series is evenly distributed over the disk; the coarser punctures are denser posteriorly and especially so laterally. These punctures are separated by about one-half their own diameter near the lateral margin.

Humeri of elytra obtuse. Sides weakly arcuate; fimbriate in anterior two-thirds. Striae well marked, deeply, crenately punctured. Intervals slightly convex, biseriately, finely punctured. The striae and intervals towards the side margins are a little more coarsely punctured.

Prosternum with a well rounded, densely hairy lobe. Mesosternum not carinate. Metasternum finely punctured, medially. Sides of metasternum coarsely, setigerously punctured. Abdominal segments alutaceous, finely punctured. Each of these abdominal punctures bears a decumbent hair.

The anterior tibia is tridentate, not crenate above the third tooth; these teeth are broad and blunt. Middle and posterior femur finely and sparsely punctured with a few hair-bearing, coarser punctures scattered between the finer ones. The apices of the middle and posterior tibiae are fimbriate with unequal spinules. The first joint of the posterior tarsi is subequal in length to the next three joints.

Male. Spur of anterior tibia longer than the first three tarsal joints. This spur is parallel in its basal part and widens as it curves inwards at right angles to an acute apex. The short spur of the middle tibia is a little over half as long as the long spur, curved inwards in distal one-third to an acute apex. Metasternum slightly concave in the center.

Length, 7.2 mm.; breadth, 3.0 mm.

*Type.* ♂; Whitehorse, Yukon, Canada, May 20, 1916 (J. A. Kusche). *Paratype.* ♂; with the same data as the type.

### ***Aphodius aleutus* Eschscholtz**

1822. *Aphodius alcutus* Eschscholtz, Entomographien, Berlin, p. 27.

1907. *Aphodius plutonicus* Fall, Trans. Amer. Ent. Soc., XXXIII, p. 245.

Fall described *plutonicus* from a male example collected at south Fork Eagle Creek, White Mountains, New Mexico. This specimen has been examined but not dissected. Other examples agreeing with the type from New Mexico and Arizona have been dissected and the form of the male genitalia found to agree with specimens of *aleutus* from Alaska, Alberta and Quebec in Canada, and from Wyoming, Colorado, Pennsylvania, Maryland and North Carolina in the United States. Externally all of the above examples agree except for a variation in color; the more northern specimens tend to be lighter in color with dark maculations on the elytra while specimens from Arizona, New Mexico, Colorado, Maryland and North Carolina are darker in color with the elytral maculations very vague.

*Aphodius aleutus* is described as having the spinules on the middle and posterior tibial apices even in length while in the type of *plutonicus* they are slightly uneven in length. This is a good example of a case in which the length of the tibial spinules is a misleading character as over the large series of specimens examined all variations of this character were noticed without any correlation as to locality or sex.

In view of the above information I feel it is best to drop the name *plutonicus* in favor of the older species *aleutus*.

#### **Aphodius (Platyderides) leptotarsis** Brown

1928. *Aphodius (Platyderides) leptotarsis* Brown, Can. Ent., LX, p. 15.

1938. *Aphodius (Platyderides) leptotarsis* Robinson not Brown, Ent. News, XLIX, p. 103.

A second specimen of this rare species was taken by the writer at Broomall, Pennsylvania on October 15, 1947 (flying in the afternoon). This specimen proves to be a female and as this sex has not previously been described the following remarks will help to separate it from the male.

Anterior tibial spur slender, gently down-curved to the acute apex. Short spur of the middle tibia straight, about half as long as the long spur, acute at the apex. The patches of hairs on the posterior margin of the middle and posterior tibia obsolete.

Length, 4.8 mm.; breadth, 2.2 mm.

The above specimen is designated the allotype of the species.

### **Aphodius (Platyderides) haldemani** Horn

1870. *Aphodius politus* Horn, Tran. Amer. Ent. Soc., III, p. 128.  
1887. *Aphodius haldemani* Horn, Tran. Amer. Ent. Soc., XIV, p. 33.  
1928. *Aphodius (Platyderides) haldemani* Brown not Horn, Can. Ent., LX, p. 39.  
1940. *Aphodius (Platyderides) magnificens* Robinson, Tran. Amer. Ent. Soc., LXVI, p. 144.

The type of Horn's species is represented in the collection of the Academy of Natural Sciences by a unique. At the time I described *magnificens* I stated, "I believe this species to be distinct from *haldemani* Horn because of its different color, coarse punctures on the pronotum denser, male anterior tibial spur is truncate and not oblique and the short spur of the middle tibia is prolonged inward and not rounded." Since this description was written I have examined two more males and a female of *haldemani* collected at College Station, Texas in the nest of *Geomys breviceps*. These male specimens agree with the type of *haldemani* in all characters noted by this author. In addition another character to separate the two species that has been overlooked is the lack of a tuft of hair on the middle and posterior trochanters of *haldemani*. The short spur of the female's middle tibia in *haldemani* is about half as long as the long spur while in female *magnificens* this spur is two-thirds as long as the longer spur.

### **Aphodius granarius** Linnaeus

1758. *Scarabaeus granarius* Linnaeus, Systema Naturae, ed. 10, Holmiae I, p. 457.  
1887. *Aphodius inutilis* Horn, Tran. Amer. Ent. Soc., XIV, p. 50.

An examination of the type of Horn's *inutilis* reveals it to be a small, light colored example of *Aphodius granarius*. The su-

tural elytral interval is as wide as the second interval which is one of the striking characters of Linnaeus's species. Dr. Horn placed *imutilis* in the group of *Aphodius* with long uneven spinules on the apex of the hind tibia while *granarius* he placed with the group having short, even spinules. The length of the spinules is a very confusing character and *granarius* is another species that might be placed in either group. The spinules on the specimens of *granarius* now before me vary so that some specimens could be referred to the group with long uneven spinules while others, probably due to wear, would be placed in the group with short equal spinules.

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### A New Species of Mayfly from Tennessee

By LEWIS BERNER, Department of Biology, University of Florida

While operating insect light traps on the campus of Tusculum College, Dr. Mike Wright collected males of a species of mayfly which he sent to me for identification. These specimens proved to be the new species described below. Subsequent collecting by Dr. Wright at another locality yielded additional males and a few females. Nymphs collected from a creek at Tusculum College were also sent for identification. Since at least two species were included in the nymphal series, it is not possible to assign a nymph to the adults with certainty; therefore, the description of the immature form is not presented in this paper.

#### *Isonychia tusculanensis* n. sp.

Adult males of *Isonychia tusculanensis* may be distinguished from those of other species by the brown coloration of the distal third of the mesothoracic wings. This new species appears to be most closely related to *Isonychia matilda* Traver from which it can be separated by the very strong coloration of the apical portion of its fore wings and its larger size. Traver states in her description of *I. matilda*,<sup>1</sup> "The apical third of the fore

<sup>1</sup> TRAYER, J. R. 1934. New North American species of mayflies (Ephemera). Jour. Elisha Mitchell Sci. Soc. 50 (1 and 2): 248.